



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,927	02/02/2001	Hisaya Ishihara	NECN 18.304	3865
26304 7590 07/11/2007 KATTEN MUCHIN ROSENMAN LLP 575 MADISON AVENUE NEW YORK, NY 10022-2585			EXAMINER KIM, KEVIN	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 07/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

SK

Office Action Summary	Application No.		Applicant(s)	
	09/775,927		ISHIHARA, HISAYA	
	Examiner		Art Unit	
	Kevin Y. Kim		2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7, 9, 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 1 and 13-17 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1,13,14,15,16 and 17 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1,13,15,16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Gailus (US 5,537,247)).

Gailus discloses a quadrature modulator (see Fig. 2) comprising;

a local oscillator (201) for oscillating at an oscillation frequency;

a frequency conversion block (203) for converting said oscillation frequency to output a converted oscillation frequency; and

a quadrature modulation block (215) comprising a frequency divider (205), first and second multipliers (207, 211) and an adder (213), said frequency divider for receiving said converted oscillation frequency, and dividing said converted oscillation frequency by a factor of two to output a pair of orthogonal signals (f_2 , and f_2 phase shifted by $\pi/2$) having therebetween a phase difference of 90 degrees, the first and second multipliers (2,3) for modulating said pair of orthogonal signals (f_2 , and f_2 phase shifted by $\pi/2$) with a baseband signal (I, Q) to output a pair of modulated signals (output from the multipliers), and said adder (213) for adding the modulated signals together to output a

carrier signal, wherein said carrier signal has a frequency different from said converted oscillation frequency and any signal frequency generated within said frequency conversion block.

Claim Rejections - 35 USC § 103

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gailus, as applied to claim 13 above, in view of Sagawa et al (US 4,638,180).

Osaka discloses all the subject matter claimed as explained above but for a high pass filter coupled to the frequency divider. Sagawa et al teaches connecting a bandpass filter or any suitable filter to a frequency divider in order to eliminate the leakage and to obtain a good spurious characteristics. See Fig.8B and col.5, line 61 – col.6, line 16. Thus, it would have been obvious to connect a high pass filter to the frequency divider (205) of Gailus for the purpose of describes eliminating the leakage and obtaining a good spurious characteristics for the output signal from the frequency divider.

Allowable Subject Matter

5. Claims 2-4, 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 5-7,9,11,12 are allowed.

Art Unit: 2611

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

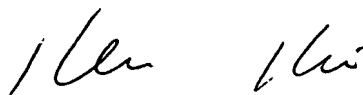
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 9, 2007

AU 2611

KEVIN KIM
PRIMARY PATENT EXAMINER

Handwritten signature of Kevin Kim, consisting of two stylized, cursive-like marks.